Practitioner's Docket No.: 791_130 RCE *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Li YANG and Toshihiro YOSHIDA

Ser. No.: 09/770,725 Group Art Unit: 1746

Filed: January 26, 2001 Examiner: Jonathan Crepeau

Confirmation No.: 6015

For: LITHIUM SECONDARY BATTERY

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 addressed to **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450** on ***March 3, 2004*** under "EXPRESS MAIL" mailing label number **EV 44336 7420 US.**

Janet M. Stevens

Janet M. Stevens

REQUEST FOR RECONSIDERATION

AFTER FINAL REJECTION

Sir:

The following remarks are in response to the Office Action mailed November 3, 2003.

Claims 1-17 remain pending herein.

Claims 1-7 and 12-17 were rejected under 35 U.S.C.§103(a) over U.S. Patent No. 6,083,644 (Watanabe '644) in view of U.S. Patent No. 6,350,544 (Takami '544) in view of U.S. Patent No. 6,277,522 (Omaru '522).

The present invention is directed to a lithium secondary battery comprising an electrode unit and a non-aqueous electrolytic solution. The electrode unit comprises a positive electrode, a separator and a negative electrode. The positive and negative electrode used in making the battery would release 5000 ppm or less of water if they were heated at 25 to 200°C, and would release 1500 ppm or less of water if they were heated at 200 to 300°C.

If the positive and/or negative electrode according to the present invention is heated to 300°C, such electrode cannot be used for making a battery because the polymer-binder in the electrode becomes decomposed.

Watanabe '644 discloses a non-aqueous electrolyte secondary battery which uses, as a negative electrode active material Li_xSiO_y and uses, as the positive electrode, $Li_xTi_yO_4$ (Watanabe '644, Abstract).

The lithium metal oxide material disclosed in Watanabe '644 for use in making the negative electrode can readily absorb water, unlike the carbonaceous material which the negative electrode active substance recited in claim 1 comprises.

Watanabe '644 discloses that "[t]he moisture content is preferably 2,000 ppm or less" as the entire battery, and it is preferred for the positive electrode mixture, the negative electrode mixture or the electrolyte to be 50 ppm or less (Watanabe '644, column 14, lines 47-50). Even if the moisture content of an electrode of Watanabe '644 was not more than 50 ppm after drying in a range of 80 to 350°C (Watanabe '644, column 14, lines 40-47), the moisture content released from such electrode may have been more than 50 ppm, and the moisture content released from all of the materials may have been more than 5000 ppm, if measured using the method as recited in the present claims.

In addition, Watanabe '644 discloses assembling the battery disclosed therein after drying preferably in the range of from 100 to 250°C (Watanabe '644, column 14, lines 39-47). However, where an electrode is going to be used in assembling a battery after drying, heating the electrode to more than 200°C in such a drying step is not realistic, because binder contained in the electrode would normally be decomposed or deteriorated at such a temperature. Accordingly, it is respectfully submitted that the batteries disclosed in

Watanabe '644 do not satisfy the cumulative water concentration features recited in the present claims.

Takami '544 is relied on for alleged disclosure of use of $LiMn_2O_4$ as a positive electrode material, and Omaru '522 is relied on for alleged disclosure of use of graphitized carbon fiber as a negative electrode material. Accordingly, any such disclosure in the secondary references would not overcome the shortcomings of the primary reference as attempted to be applied against claims 1-7 and 12-17.

Accordingly, it is respectfully requested that the U.S. Patent and Trademark Office reconsider and withdraw this rejection.

Claims 1-17 were rejected under 35 U.S.C.§103(a) over U.S. Patent No. 6,235,426 (Yanai '426) in view of Watanabe '644 in view of Takami '544 in view of Omaru '522.

Yanai '426 is cited for alleged disclosure of a non-aqueous lithium secondary battery comprising a positive and negative electrode laminated through a separator and containing an electrolyte comprising lithium hexafluorophosphate, the battery having a capacity of 3.5 Ah. The November 3, 2003 Office Action contains an acknowledgment that Yanai '426 does not disclose the water content of the electrodes. For the reasons discussed above, Watanabe '644, Takami '544 and Omaru '522 all fail to contain disclosure which would motivate one of skill in the art to attempt to construct the battery of Yanai '426 in such a way that the positive and negative electrodes would satisfy the cumulative water concentration features recited in the present claims. Accordingly, it is respectfully requested that the U.S. Patent and Trademark Office reconsider and withdraw this rejection.

In view of the above, claims 1-17 are in condition for allowance.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

March 3, 2004
Date

Kevin C. Brown
Reg. No. 32,402

KCB:jms

BURR & BROWN
P.O. Box 7068
Syracuse, NY 13261-7068

Customer No.: 025191
Telephone: (315) 233-8300
Facsimile: (315) 233-8320

03-04-04 AF/1700

TRANSMITTAL FORM

(Provisions of 37 CFR 1.136 Apply)

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Application Number	09/770,725	Filing Date	January 26, 2001
Group Art Unit	1746	Examiner Name	Jonathan Crepeau
Confirmation No.	6015	Attorney Docket No.	791_130 RCE
Inventor(s)	Li YANG and Toshihiro YOSHIDA		
Invention:	LITHIUM SECONDARY BATTERY		

Transmitted herewith is a Request for Reconsideration in the above-identified application. The fee has been calculated as follows:

CLAIMS

(1)	(2) Claims Remaining	(3)	(4) Highest Number Previously Paid	(5) No. of Extra Claims Present	(6) Rate (Large Entity)	(7) Additional Fee
TOTAL CLAIMS	17	MINUS	20	0	$18.00	$00.00
INDEP. CLAIMS	2	MINUS	3	0	$86.00	$00.00
				TOTAL ADDITIONAL FEE		$00.00

EXTENSION OF TERM

☐ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

☒ This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application. The requested extension and appropriate non-small entity fee are as follows:

☒ One Month (37 CFR 1.17(a)(1) $110.00	110.00
☐ Two Month (37 CFR 1.17(a)(2) $420.00	
☐ Three Month (37 CFR 1.17(a)(3) $950.00	
TOTAL FEES DUE	110.00
☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee amount is reduced by one-half, and the resulting fee is:	

FEE PAYMENT

☐ No additional fee is required.
☒ A check in the amount of $110.00 is enclosed.
☐ Charge Deposit Account 50-1446 in the amount of $. Enclosed is a duplicate copy of this sheet.
☒ Please charge any fees which may be required, or credit any overpayment, to Deposit Account 50-1446.

Submitted By:

Name *(Print Type)*	Kevin C. Brown	Reg. No.	32,402	Customer No.	025191
		Telephone	(315) 233-8300	Facsimile	(315) 233-8320
Signature	Kevin C Brown			Date	March 3, 2004

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EXPRESS MAIL CERTIFICATE

"Express Mail" label number EV 443367420 US

Date of Deposit: March 3, 2004

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